

- (1) பக்கங்களின் எண்ணிக்கை ௨௨
 (2) புதுக்கித் திருப்பிய நாள் ௨௨.௨.௮
 (3) ஆதாரங்குறிப்பவர் சுருக்கொப்பம் 6௮

தமிழ்நாடு ஆவணக் காப்பகம்.

தமிழ்நாடு அரசு

பொதுப்பணித்
துறை

அரசாணை எண். மு. கோப்புத் தாள் எண்.	745	அச்சகம் பலவகை
நாள் :	7.3.1890.	193 .

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மடிக்கவோ கண்டபடி கையாளவோ கூடாது

745
1

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Military Works.

READ—the following papers:—

From H. St. A. GOODRICH, Esq., Collector of Bellary, to the Secretary to Government, Public Works Department, dated Bellary, 11th January 1890, Ref. on Mis. Reg. No. 19/56 of 1890.

I have the honor to observe that from G.O., 29th October 1889 (No. 521 I., Public Works), the Government has declared its acceptance of the Chief Engineer's deliberate opinion that the Tungabhadra channel scheme is one which it is not advisable to undertake.

2. G.O., 17th May 1889 (No. 1317 W., Public Works), orders the consideration of the Bellary Cantonment Water-supply Committee's report to be deferred pending the decision upon the prospects of the Tungabhadra channel scheme.

3. The population of Bellary, about 60,000, depends for its supply of potable water upon the Fort Ditch and Mainwaring tank and a very few wells. The water of both the Fort Ditch and Mainwaring tank is condemned as suspicious (*vide* enclosure).

4. On receipt of G.O., 29th October 1889, above referred to, I requested the Superintending Engineer to ascertain the difference of level between the sill of the Mainwaring tank escape and the weir of the Fort Ditch; the former is found to be 29 feet lower than the latter; the Mainwaring tank can therefore readily be filled through the Fort Ditch if the supply to the Fort Ditch be rendered sufficiently copious. A pipe laid by the side of the Railway line would probably be the best method of carrying the excess water from the one to the other reservoir—a distance along the curve of the Railway line of a mile and a half.

5. There is no question as to the facts; the Military and Municipal authorities acknowledge that it is an urgent matter that the quality and quantity of the Bellary water-supply should be improved, and that such improvement can easily be effected by increasing the storage capacity of Alipur and Fischer's tanks, and protecting the channels which carry water thence to the Fort Ditch and the surface of drainage channel which feeds Mainwaring tank.

6. I am very strongly of opinion that the use of these reservoirs as dipping wells should cease and that water should be drawn by windlass from a stage; but this is a question of detail and my repeated advice has failed to influence the Military or Municipal authorities in favor of this change.

7. Colonel Smalley has an officer under his orders here, Mr. Russell, who is believed to be excellently qualified to investigate and report upon the practicability of the completion of the works which supply the Fort Ditch, which have been described in Colonel Smalley's annexure to the report of the committee whose consideration the Government has deferred, and the object of my present letter is to suggest that a report from him be called for.

ENCLOSURES.

From Surgeon-Major W. O'HARA, District Surgeon, Bellary, to the Chairman, Municipal Council, Bellary, dated 12th February 1889, No. 171.

Has the honor to forward chemical analysis of potable water from the Fort Ditch and Mainwaring tank, and to remark that the suspicious character of the water is due to the large proportion of albuminoid ammonia contained therein. This ingredient is derived from organic substances and would not occur in the quantity noted if the catchment areas of feeding channels and reservoirs were freed from animal pollution.

Chemical Examiner's Report.

	A.	B.
	Mainwaring Tank.	Fort Ditch.
Total solids, grains per litre	0.170	0.210
Volatile solids, do.	0.050	0.050
Chlorine, do.	0.011	0.014
Total hardness, Clark's scale	3°-500	3°-500
Permanent hardness, do.	1°-750	1°-050
Free ammonia, mlgms. per litre	0.280	Trace.
Albuminoid ammonia, do.	0.400	0.480
Nitre acid do. (as ammonia)	0.300	0.375
Apparent quality of the water from the results obtained on examination.	Suspicious.	Suspicious.
Remarks	Nil.	

Note.—Taken after the monsoons; the water is far worse than this during the greater part of the year.

(Signed) H. St. A. GOODRICH,
Collector.

Copy of letter from A. S. RUSSELL, Esq., Executive Engineer, Bellary Division, to the Superintending Engineer, III Circle, dated 5th February 1890, No. 4363.

With reference to your endorsement No. 3215, dated 1st instant, on memo. No. 401 C., dated 22nd January 1890, from the Chief Engineer, I have the honor to say that I am of opinion that the main requirements of the Bellary water-supply are—

- (1) Increase of area of gathering ground so as to obtain a better supply.
- (2) Increase of storage capacity of reservoirs.
2. Both these objects are feasible, but will require a good deal of levelling and surveying before a proper scheme can be drawn up and an estimate made.
3. An increase of catchment basin can be made by impounding the run-off from a considerable portion of the Copper Mountain range that at present escapes directly to the streams.
4. An increase of storage capacity can be made by raising the F.T.L. of the Alipur tank by 2 feet, and by forming a flood reservoir in a favorable site near the foot of the Copper Mountain range.
5. It would not be safe, unless a large outlay was incurred on the bund, to raise the Alipur tank by more than 2 feet. As regards the formation of a new reservoir, I have reason to believe, from inquiries I have made and from inspection of the map, that a considerable stream draining the Copper Mountain and at present not utilised can be dammed at a favorable site. I will ride over the country and look into this matter myself when I have a little spare time to do so. If investigation shows that this is not the case, additional storage must be otherwise obtained.
6. I regard it as useless to spend money in raising the F.T.L. of Fischer's tank. This tank is very shallow and is practically useless as a reservoir for town supply, nor can it be converted into a deep reservoir except at great cost owing to the flatness of the country.

7. A better water-supply and sufficient storage having been obtained, filtering of the water at the reservoirs and conveying it therefrom in pipes to the Fort Ditch will render it possible to give a supply of good water at all times to the town of Bellary.

8. As a survey will have to be made, several miles of levels to be taken, and the capacities of the various reservoirs ascertained by contours, a special establishment must be given if a scheme is to be worked out in detail by this department. The water-level in the reservoirs is now comparatively high, and it will be advisable therefore to defer the commencement of surveying operations until 1st June next. A surveyor of some experience and intelligence will be required. The following is the survey establishment I consider necessary:—

One Surveyor on Rs. 100 per month for 6 months.
Five Lascars on Rs. 7 per month for 6 months.

No. 3446.

Forwarded to the Chief Engineer, Public Works Department, as called for in his memo. No. 401 C., dated 22nd January 1890. The Superintending Engineer concurs generally with the views expressed by Mr. Russell. A sum of Rs. 1,000, inclusive of all contingencies, should be placed at the disposal of this department on 1st April 1890 for the investigation of the scheme as sketched out by the Executive Engineer, Bellary Division.

BELLARY,
20th February 1890.

(Signed) H. SMALLEY, Colonel, R.E.,
Superintending Engineer, III Circle.

ORDER—dated 7th March 1890, No. 745 W., Public Works.

Mr. Russell's report will be communicated to the Collector of Bellary through the Revenue Department.

2. The proposals in para. 8 of Mr. Russell's letter are approved. The required survey establishment may be sanctioned by the Superintending Engineer as a minor work under para. 186, Public Works Code.

(True Extract.)

Captain, R.E.,
Under-Secy. to Govt., P.W.D.

To the Superintending Engineer, III Circle.
" Revenue Department.
" Local and Municipal Department.
" Military Department.

Exd. J. Moses.
Spare Copies

BUILDINGS AND ROADS.
MILITARY WORKS.

Gobt. of {1890} Madras.
PUBLIC WORKS.

Dated March, 7th.

Recd.

Encl.

G.O., 7th Mar. 1890, No. 745 W.

MARCH.

Water-supply of Bellary

Report of Mr. Russell, Executive Engineer, on the main requirements of the — communicated to the Collector, and the survey establishment required by Mr. Russell to be sanctioned by the Superintending Engineer, III Circle.

Bellary Collectors' Office,

Ref. in Reg. No. 19 of 1890

Dated 11 January 1890

FROM

N. St. A. Goodrich Esquire.

2/2/90

Collector of BELLARY.

TO

The Secretary to Government
Public Works Department
Madras.

SIR,

I have the honor to observe that from G.O. 29th October 1889, (No. 5211 Public Works) the Government has declared its acceptance of the Chief Engineer's deliberate opinion that the Tungabhadra Channel Scheme is one which it is not advisable to undertake.

2. G.O. 17th May 1889, (No. 1317. H. Public Works) orders the consideration of the Bellary Cantonment water supply Committee's report to be deferred pending the decision upon the prospects of the Tungabhadra Channel Scheme.

3. The population of Bellary, about 60,000, depends for its supply of potable water upon the Fort Ditch and Mainwaring Tank and a very few wells. The water of both the Fort Ditch and Mainwaring Tank is condemned as suspicious (vide enclosure).

4. On receipt of G.O. 29th October 1889 above

referred to I requested the Superintending Engineer to ascertain the difference of level between the sill of the mainwaring tank weir and the weir of the Host Ditch; the former is found to be ^{twenty nine feet} ~~eighteen feet~~ lower than the latter, the mainwaring tank can therefore readily be filled through the Host Ditch if the supply to the Host Ditch be rendered sufficiently copious.

A pipe laid by the side of the Railway line would probably be the best method of carrying the excess water from the one to the other reservoir ^{a distance along the curve of the Railway line of a mile and a half}. There is no question as to the facts; the military

and Municipal authorities acknowledge that it is an urgent matter that the quality and quantity of the Bellary water supply should be improved, and that such improvement can easily be effected by increasing the storage capacity of Akapur and Fishers Tanks and protecting the channels which carry water thence to the Host Ditch and the surface of drainage channel which feeds mainwaring tank.

6. I am very strongly of opinion that the use of these reservoirs as dipping wells should cease and that water should be drawn by windlases from a stage; but this is a question of detail and my repeated advice has failed to influence the military or Municipal authorities in favour of this change.

7. Col. Smalley has an officer under his orders here, Mr. Russell, who is believed to be excellently qualified to investigate and report upon the practicality of the completion of the works which supply the Host Ditch; which have been described in Col. Smalleys annexure to the report of the Committee whose consideration the Government has deferred - and the object of my present letter is to suggest that a report from him be called for.

I have the honor to be
Sir,
your most obedient servant
C. Russell

29

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No. 521-23-27-10-89
" 13175-17-5-89
" 10950-5-3-89
" 36095-14-11-88
" 2395-14-4-88
" 105-6-1-86
" 9569-13-11-85
" 9245-4-4-84
" 2642-22-8-66

255
255

REVENUE DEPARTMENT.

FROM
THE COLLECTOR OF
BELLARY.

TO
THE *Secretary to Government*
Public Works Department
Madrass

Report No. 12 of 1890
Dated *11* } *January* 18
Despatched *14* }

Enclosures

Subject.

*Proposing measures for
the improvement of
water supply to Bellary
Town.*

521-22 Jan 29-10-89
1317 W of 17-5-89
1095 C of 5-3-89
3609 W of 14-11-88
2398 of 14-4-88
956 of 13-11-85
924 W of 4-4-84

S. E. III circle

922/1

4. 17-1-90 R 20-1-90

(inverted)

No 171

Dated 12-2-89

From District Surgeon

To Bhaivan, Municipal Council,
Bellary.

*Has the honor to forward chemical
analysis of portable water from the Fort-Ditch
and mainmaring tank and to remark that
the suspicious character of the water is due
to the large proportion of albuminoid amon-
-ia contained therein. This ingredient
is derived from organic substances and
would not occur in the quantity noted if
the catchment areas of feeding channels
and reservoirs were freed from animal
pollution.*

(Signed) W. D. Hara.
Surgeon Major
District Surgeon.

(True copy)

Approved
Collector

Copy of letter No 4363 dated
5th February 1890 from A. S. Russell
Esquire Executive Engineer Bellary
Division to the Superintending Engineer
Mysore Bellary.

With reference to your endorse-
ment No 3215 dated 1st instant, on
memo No 4010 dated 22nd January 1890
from the Chief Engineer, I have the
honor to say that I am of opinion
that the main requirements of the
Necessary Water supply are:-

- (1) Increase of area of gathering
ground so as to obtain a better supply
- (2) Increase of storage capacity of
reservoirs.

II. Both these objects are feasible,
but will require a good deal of
levelling and surveying before a
proper scheme can be drawn up
and an estimate made.

III. An increase of catchment
basin can be made by impounding
the run off from a considerable
portion

portion of the Copper Mountain Range that at present escapes directly to the streams.

IV An increase of storage capacity can be made by raising the F.T.L. of the Allipur tank by 2 feet, and by forming a flood reservoir in a favorable site near the foot of the Copper Mountain Range.

V It would not be safe, unless a large outlay was incurred on the bund, to raise the Allipur tank by more than 2 feet. As regards the formation of a new reservoir, I have reason to believe, from enquiries I have made and from inspection of the map, that a considerable stream draining the Copper Mountain and at present not utilised can be dammed at a favorable site. I will ride over the country and look into this matter myself when

I have a little spare time to do so. If investigation shows that this is not the case, additional storage must be otherwise obtained.

VI I regard it as useless to spend money in raising the F.T.L. of the ⁵/₂ tank. This tank is very shallow, and is practically useless as a reservoir for town supply, nor can it be converted into a deep reservoir except at great cost owing to the flatness of the country.

VII A better water supply and sufficient storage having been obtained, filtering of the water at the reservoirs and conveying it therefrom in pipes to the Fratt ditch, will render it possible to give a supply of good water at all times to the town of Bellary.

VIII As a survey will have to be made, several miles of levels to be taken, and the capacities of the various reservoirs ascertained by contours, a special establishment

must be given if a scheme is to be
worked out in detail by this Depart-
ment. The water level in the pe-
-siveness is now comparatively high,
and it will be advisable therefore
to defer the commencement of
surveying operations until 1st June
next. A surveyor of some expe-
-ence and intelligence will be
required. The following is the survey
establishment, I consider necessary.

1 Surveyor under \$100 per month for 6
months.

5 Lacars under \$7 per month for 6
months.

(Copy) —

H. Smithy Cdr.
Supt Engineer
3 April

No 34, 4, 6

Forwarded to the Chief Engineer
P. W. Department as called for in
his memo No 401 C dated 22nd Janu-
-ary 1890. The Superintending Engineer

Concurs generally with the views
expressed by Mr Russell. It seems
of the 1000 inclusive of all contin-
-gencies should be placed at the
disposal of this Department on
1st April 1890 for the investigation
of the scheme as sketched out by
the Executive Engineer, Bellary Divi-
-sion.

H. Smithy Cdr.

Supt Engineer
3 April

Supt Engineer's office &
Bellary 20 February 1890

To the Chief Engineer
P. W. Department
Mudrao

No 401 C of 22-1-90
- 521-29-29-10-89
- 1317 W - 17-5-89
- 1895 C - 5-3-89
- 3607 W - 19-11-88
- 2392 - 14-6-88
- 103 - 6-1-86
- 956 J - 13-11-85
- 924 W - 4-1-84
- 2642 - 22-8-86

10. 1853

From the following

The Supt Engineer

3/10/90

Bellary

The Chief Engineer

P.W. Dept

Madras

Dated 20/2/90
Recd 2/3/90

By sub.

Bellary Water Supply

Forwarding copy of
letter No 4363 of 5 Feb 1890
from the Supt Engineer
Bellary Division informing
the various requirements of
the work and the establishment
required to carry out the
project in detail by O.S. 15

Rev. Secy 5-3-90

For orders whether
the establishment
asked for by Mr.
Russell may be
sanctioned.

The cost would
apparently be divisible
between Municipal
and Military funds.

26.2.90

26.2.90

Sanction it. The sanction of this
division of the cost is hardly worth
raising.

28/2/90

27.2.90

PUBLIC WORKS DEPARTMENT.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

Read the following

Letter from the Collector of Bellary (No. 19 of 11.1.90)
- do - " E.E. Bellary (No. 4363 of 5.11.90)
Endorsement thereon by the S.E. III (No. 3446 of 20.11.90)

26/2/90

Mr. Russell's report
will be communicated
to the Collector of Bellary
through the Revenue
Department.

2. The proposals in
para 8 of Mr. Russell's
letter are approved.
The required survey
establishment may be
sanctioned by the

Supty

Supt. Engineer as a
minor work under para

186 P.W. Code.

W.C.B.
4.3.90

Quadr.
4.3.90

Ch.
6/3

S.E. III Code

Nav. dept.

Lo. M. dept.

Military dept.

10 m. to 10 m. R.
for 10 m. R.

5-3-90 R7-3-90

745
11

1855.

Govt. of India.

PUBLIC WORKS.

23

Date

Room

Encl

7th March 1874.

Water Supply of
Bellary

Report of Mr Russell
Superintending Engineer on the main
requirements of the
Committee to the Council of
the Bombay Government
Report by Mr Russell
who came to the
III Circle.

130

enc 42 247